ACTi Mobile Server
User Manual

03/22/2011

ACTi
Connecting Vision

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Overview

Introduction

ACTi Mobile Server provides streaming re-direction from NVR Server to all web clients that can see MJPEG format video. Users do not need to modify encoding type of IP devices or NVR settings for Mobile Server, because the service will automatically encode video in MJPEG format. Web clients can directly access ACTi Mobile Server through all the MJPEG-enabled browsers such as Safari, Google Chrome, Firefox except for Internet Explorer, for it has been missing MJPEG streaming support even on its latest IE9.

The service architecture is described in the figure. Please note that the architecture may change to fit different applications.

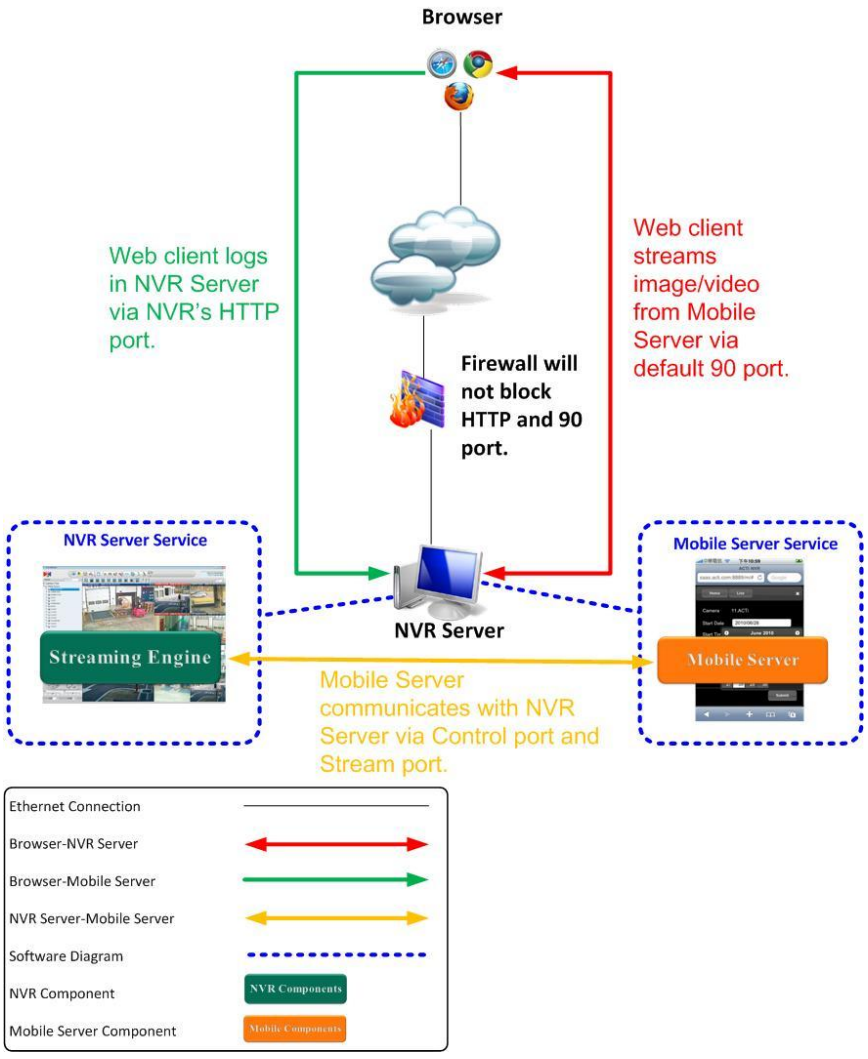

Fig. 1 Network Architecture

Main Specification

Live	Output Format	MJPEG QCIF @3 FPS
	Supported Browser	iPhone Safari
	NVR Server	ACTi NVR Enterprise 2.2 SP3 v 2.2.57.52 or later
	Display Layout	According to NVR Server channel setup.
	Thumbnail Display	Snapshot from each channel upon login.
	NVR Supported	One NVR Server per Mobile Server
	PTZ Control	Via on screen buttons
	Channels Supported	Up to 64 Channels per Mobile Server
Playback	Single Channel Playback	Playback video from single channel, timestamp.
	Search	Time-based and event based search.

System Requirements

PC Specification:

1. Minimum PC specification:

PC Specifications	16 Channels	32/48/64 channels
	Recommended	Recommended
CPU	**Intel Core 2 Quad 2.66 GHz**	**Intel i5-670 3.46 GHz**
Memory	4GB +	4GB +
Network	Gigabit Ethernet	Gigabit Ethernet
Graphics Card	nVidia 9800 GT or better	nVidia GTS 250 or better
Graphics Card memory	512 MB or more	512 MB or more
Hard Drive Space	2 GB for NVR, 250 GB for Video	2 GB for NVR, 1TB for Video

2. You may install NVR Server and NVR workstation onto the same PC with Mobile Server.

3. Before starting to record, be sure to reserve storage capacity of 20GB or above on the disk drive for recording.
4. Supported Windows OS for 32 bit and 64 bit systems are listed below

OS	Version	32 bit	64 bit
Windows 7	Professional	Y	Y
Windows 7	Enterprise	Y	Y

- For 64 bit NVR version, 64 bit Internet Explorer is not supported. Please use 32 bit Internet Explorer.

Please consult your Network Administrator for service bandwidth capacity for user connections.

Installation

These are the general steps of completing the mobile server installation. For the NVR Server PC, please:

1. Set up port forwarding rule to open ports for **NVR HTTP** (default:**80**) , **NVR control** (default: **6001**)**, NVR streaming** (default:**6001**) and **Mobile Server streaming** (uses only **90**, please don't change it).
2. Make sure you have disabled UAC functions. (When using Windows Vista or 7)
3. Install Mobile Server.

   Please backup your IP and PTZ configuration of the previous version before you run the installation shield. All settings will be over-written while upgrading.

4. Edit the config file.
5. Restart the server PC.

Disabling UAC Function in Windows

If UAC(User Access Control) is enabled in Windows Vista and Windows 7, users must disable UAC first before continuing. TweakUAC is a tool that comes with the install shield, which will help users to turn UAC off. Users may turn it back on later after installation is complete.

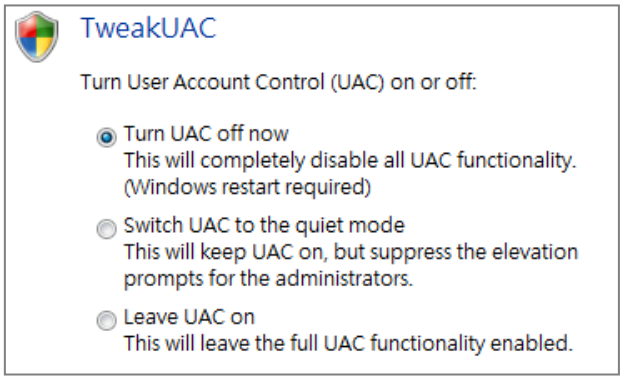

Fig. 2 TweakUAC

General Configuration

After you installed NVR server in your PC and completed all NVR configurations, please execute the file 'Mobile Server.msi' in the same PC.

After it is installed, you have to configure IP address and ports to let web clients access to Mobile Server. There is one file under NVR folder that you have to edit:

C:\Program Files\NVR\IPControlCenter\m\config.xml.

Please open this file with Notepad and you will see the content as below.

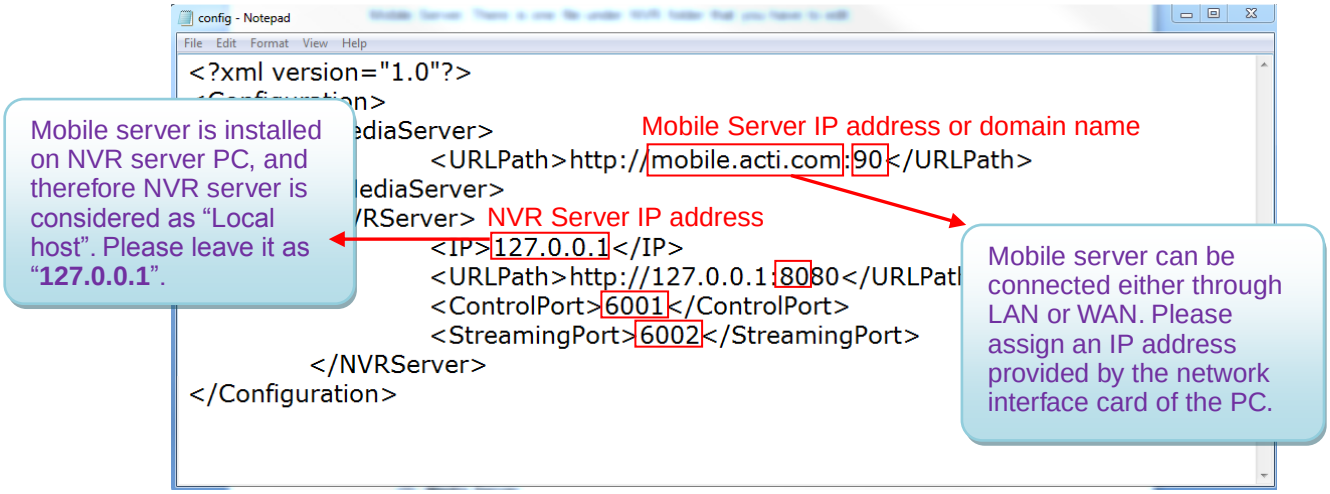

Fig. 3 Configurations of Mobile server

Please follow the instructions to modify parameters according to the settings of your NVR server.

(1) Media Server

Fig. 4 Media Server URL

- **< URL Path>:**

  The URL Path consists of the address and port of Mobile Server.

  - **IP:** Please modify URL path to the IP address of Mobile Server.
  - **Port:** Mobile Server uses default **port 90** to send video stream to web client.

  For example, if the PC which you install mobile server has the IP address **220.228.146.22** and the media server uses port 90, then you should use **http:// 220.228.146.22:90** as its URL path.

(2) NVR Server

Fig. 5 NVR ports

- **< IP>:** Mobile Server will use it to communicate with NVR server. Since we install Mobile Server in the same PC with NVR Server, we can use 127.0.0.1 as the IP address.
- **<URL Path>**

  The URL Path consists of the address and HTTP port of NVR.

  -IP: This URL path will be used by Mobile Server to communicate with NVR Server. Since we install Mobile Server in the same PC with NVR server, you can leave the IP address as 127.0.0.1.

  - HTTP port: Please change it to your NVR Server's HTTP port. Default is port 80.

  For example: if the HTTP port of your NVR is **8080**, the URL Path will be **http://127.0.0.1:8080**.
- **<Control Port>** Please change it to your NVR Server's control port. Default is 6001
- **<Streaming Port>** Please change it to your NVR Server's streaming port. Default is 6002

Please restart your PC after you are done with all configurations to make them take effect.

PTZ Camera Configuration

For PTZ function, you will also have to configure it for each PTZ camera manually. Please follow the instruction below and configure it through the following steps.

Step1: Please enable PTZ function in NVR for each PTZ camera. And please make sure PTZ function works in NVR with proper settings.

Step2: Please go to Media Server folder "C:\Program Files\ACTi\Mobile Server\Media Services\config\device\", and open MediaSourceConfig.xml file with Notepad. We are going to edit the settings of PTZ camera in this file.

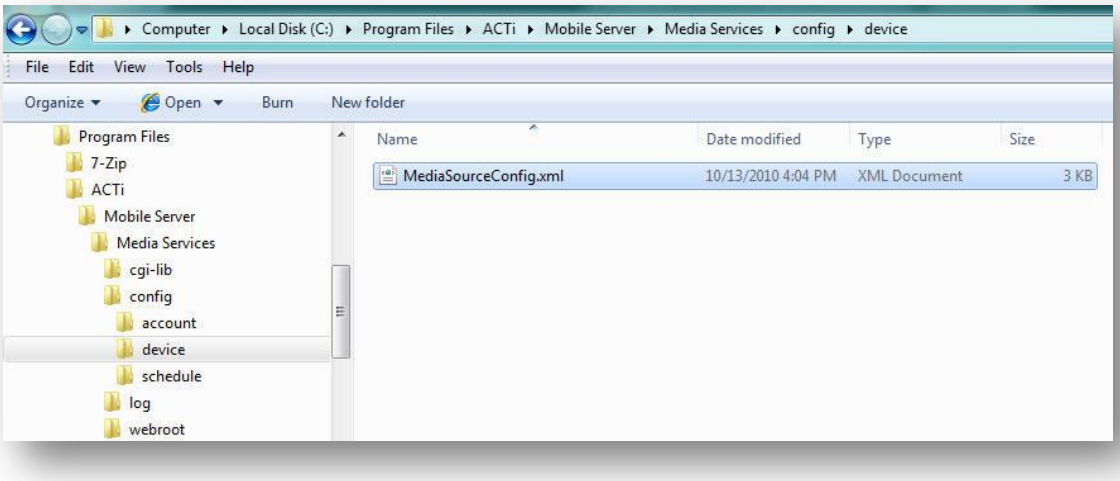

Fig. 6 Configuration file

Step3: After opening it, you will see the file as below. What we are going to do now is to change the settings to what settings PTZ camera currently has. We will need you to find those settings in NVR and write them back to MediaSourceConfig.xml file.

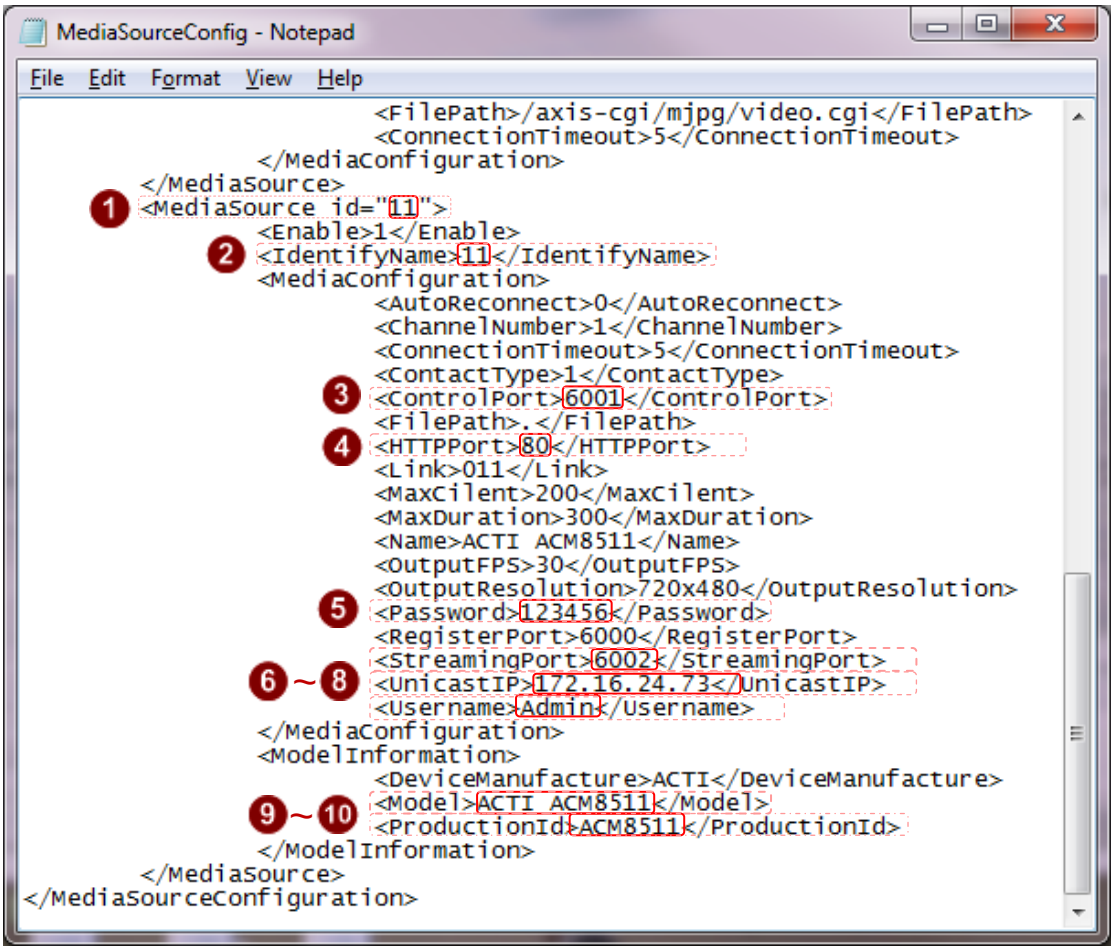

Fig. 7 Configurations of PTZ Cameras (Example)

First, you will have to find the PTZ camera that you have according to Model (9) and Production Id (10). After that, you will be able to start to configure all the other fields. Items from (1) to (9) need to be properly configured. If not, the PTZ function won't be able to work.

(1) Media Source id: Please fill in the Camera ID in NVR Server. You will be able to find the [Camera ID] for this camera in Camera Tree of NVR Server.

(2) Identify Name: Please fill in the camera ID in NVR Server

(3) Control Port: Please fill in the control port of the PTZ camera

(4) HTTP port: Please fill in the HTTP port of the PTZ camera

(5) Password: Please fill in the password which is used to login this PTZ camera

(6) Streaming Port: Please fill in the steaming port of the PTZ camera

(7) Unicast IP: Please fill in the IP address of the PTZ camera

(8) Username: Please fill in the user name which is used to login PTZ camera

(9) Model: It shows the model name of the PTZ camera

(10) ProductionId: It shows the production ID of the PTZ camera

User editable scope is between <MediaSourceConfiguration> and </MediaSourceConfiguration> labels. And the text between <MediaSource id="{CAMERA_ID}"> and </MediaSource> is to describe the attributes for specified PTZ camera "{CAMERA_ID}". Please do not modify settings outside of this range. If there are multiple PTZ cameras, please copy the content of label <MediaSourceConfiguration> and paste in the following of the original one, and then modify items as described above.

Things you need to know before you start

1. Mobile Server service is a web service working with an NVR Server. Please make sure the NVR Server is working properly, and port connection is free from firewall or other barriers. Otherwise, thumbnails or video traffic may be blocked out and unable to be displayed.

2. NVR Server configuration should still go through NVR Workstation / Web client and is NOT included in Mobile Server.

3. Mobile Server doesn't support audio functions, so before users start to run the system, **please disable audio-in function for every single channel**. Without this step, you can't get image of that channel from web browser or MobileGo.

System Startup

How to connect to mobile server?

You may connect to NVR Server URL with the related path "**/m/**" to start the service.

For example, if your NVR server's address is 220.228.146.22 and use 80 as HTTP port, you will have to use the address http://220.228.146.22:80**/m/** to connect to the Mobile server from your iPhone.

There is a demo of Mobile server. You may try it before you have your own mobile server. Please use your iPhone browser and connect to http://mobile.acti.com:80**/m/**.
Account/password is guest/guest.

Login

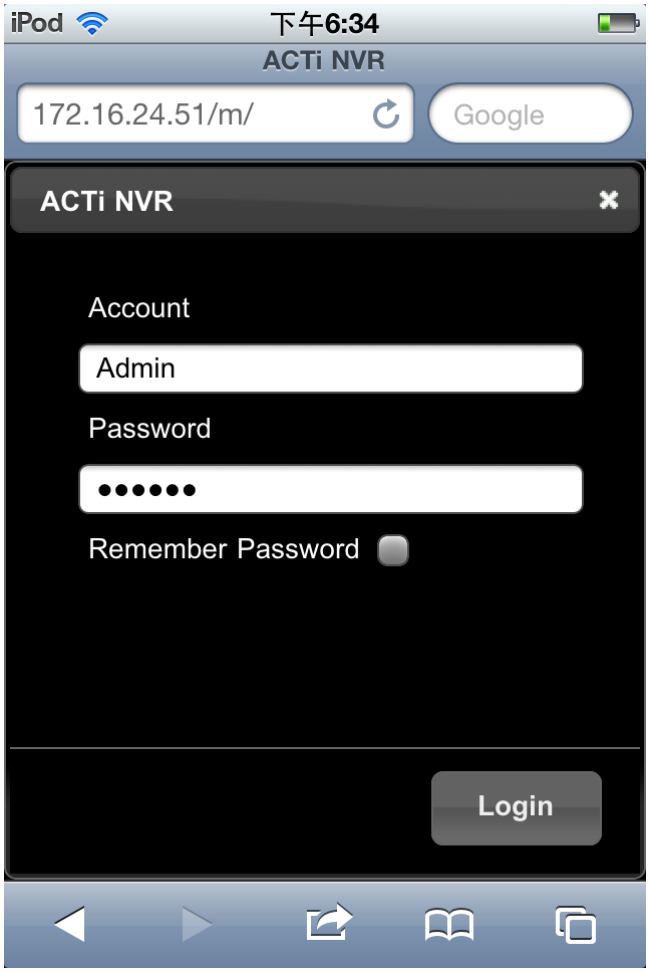

Fig. 8 Login Screen

1 **Username**

Please key in account username. Default username is **Admin**.

2 **Password**

Please key in account password. Default password is **123456**.

3 **Remember Password**

Check the box to remember username and password.

4 **Login**

Please Click on **Login** button to log into the service.

Live

Live Main Screen

Upon login of the system, **Live** tab will automatically display thumbnails of all the channels captured on that second from IP devices. Thumbnail layout may change in accordance with display panel resolution.

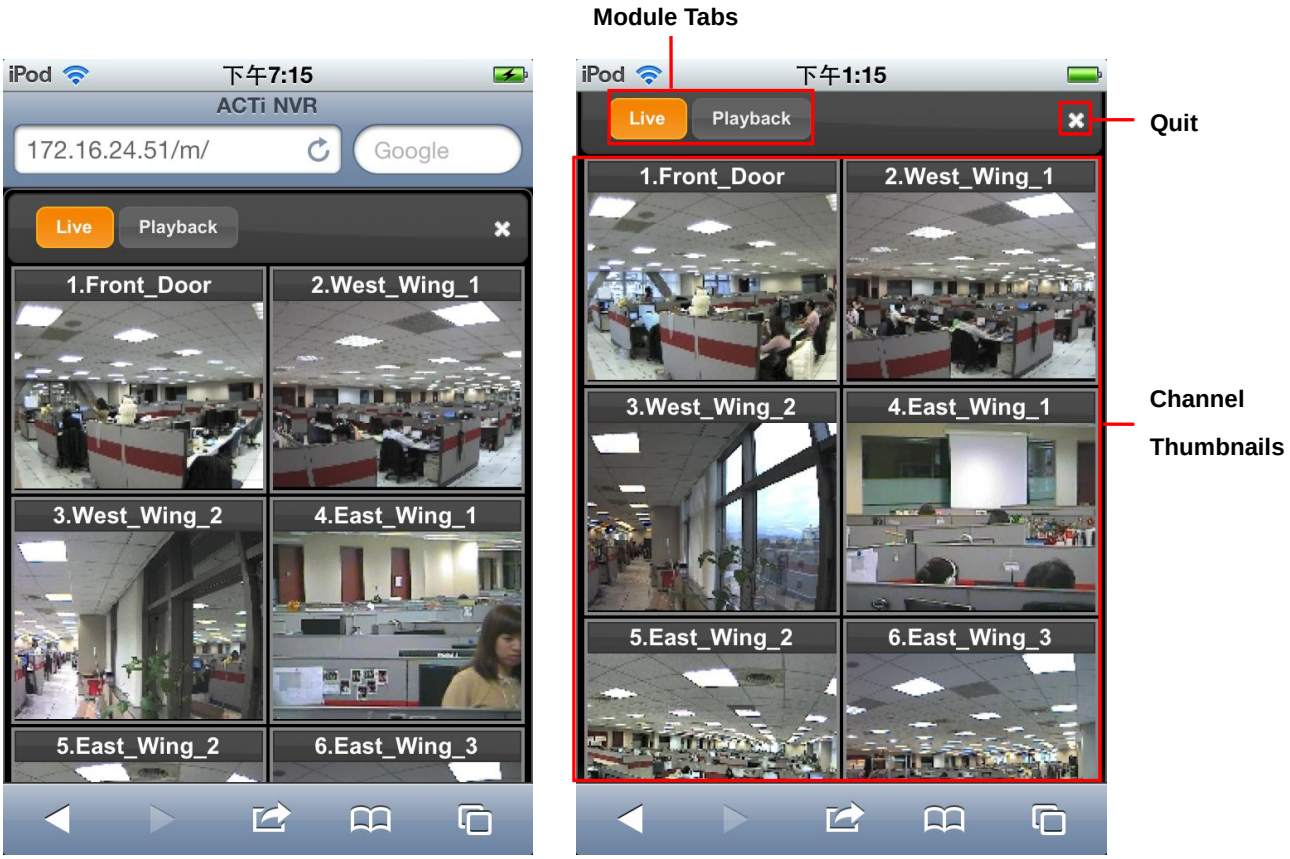

Fig. 9 Live Main Screen

Summary of the Live Main Screen

1. **Module Tab**

   To switch modules, user may click on one of the tabs to change modules.

2. **Channel Thumbnails**

   Still images captured on the spot when users log in. The main display where user may select the camera

3. **Quit**

   To logout the service and stop streaming.

Module Tabs

There are two modules in the system, **Live** and **Playback**, to carry out live streaming and playback.

Fig. 10 Module Tabs

Under Live module when a specific channel is selected, tabs may vary depending upon IP device model. Some channels might have PTZ-enabled tab if they are PTZ models. Users may double click on one of the thumbnails to start live stream, and tabs on the top-left-hand-side shall be displayed as in Fig. 6.

Fig. 11 Tabs of Live streaming

Users may click on **Playback** tab as in Fig. 5 or Fig. 6 while a channel is selected to switch to Playback module. Tabs shall display **Home** and **Live**, therefore users may click on **Home** to go back to the main screen, or click on **Live** to start streaming. If there are search results listed, **Search Result** button shall display and let users go to the search result list.

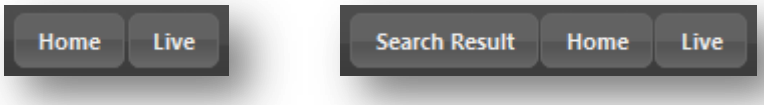

Fig. 12 Tabs of Playback

Live Streaming

In **Live** main page, double click on a channel to start live view.

Fig. 13 Live View

1. **Home**

   To go back to Live main page.

2. **Playback**

   To switch to **Playback** page.

3. **PTZ**

   To control PTZ. Details please refer to PTZ Function.

4. **Quit**

   To log out from the service.

PTZ Function

Fig. 14 Live streaming with PTZ control

1. **Speed**

   You may define speed of movement here.
2. **Preset**

   To select a preset point.
3. **Go**

   Click on **Go** to move to the preset point with pre-defined speed.
4. **On-screen PTZ**

   Users may move the PTZ device via on-screen PTZ control buttons.

To control PTZ, click on the display panel, then PTZ buttons shall overlay transparently. Click on one of the buttons to control PTZ. These buttons will fade out when there are no more cursor clicks.

Users may operate in the following ways:

Select speed and preset point. Then click on **Go** to move to the preset point.

Fig. 15 PTZ Speed and Preset

Playback

Playback Overview

Users may search recorded video clips regarding channels, date/time, duration, and type.

Fig. 16 Playback Main Screen

Summary of the Playback Main Screen

1. **Module Tab**

   To switch modules.

2. **Search Panel**

   Users may search for playback under several search conditions .

3. **Submit**

   To send out search criteria to the Server.

4. **Quit**

   To quit the service.

Search Panel

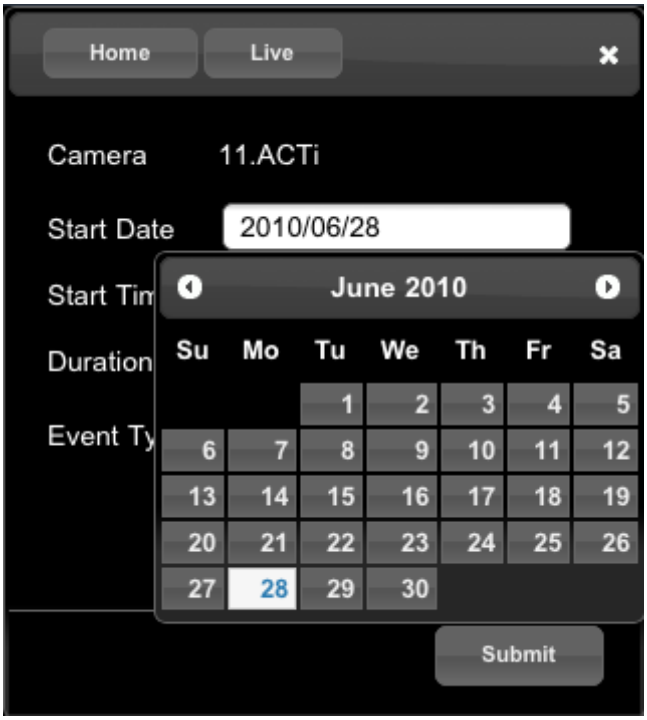

Fig. 17 Search Panel

1. **Camera**

   The service allow users to search playback from a single channel.

2. **Start Date**

   To select a date.

3. **Start Time**

   To define the start time.

4. **Duration**

   To define the duration of search period.

5. **Event Type**

   Event type allows users to specify whether they would like to search playback of scheduled recording, motion-triggered recording, or DI-triggered recordings. The selection may be multiple choices.

In Fig. 14, the search criteria are camera 2, all types of recordings at 11 AM thru 12 PM by June 28th, 2010. The search results are listed as in Fig. 15. If the search result list is longer than the display screen, please slide the page or use scroll bar, and click on arrows to turn pages. To watch playback, please click on one of the items, and the playback shall be displayed automatically.

To return to Search Result list, please click on **Search Result** button. Clicking on **Home** will return to Live main page, and clicking on **Live** button will start live video of the channel.

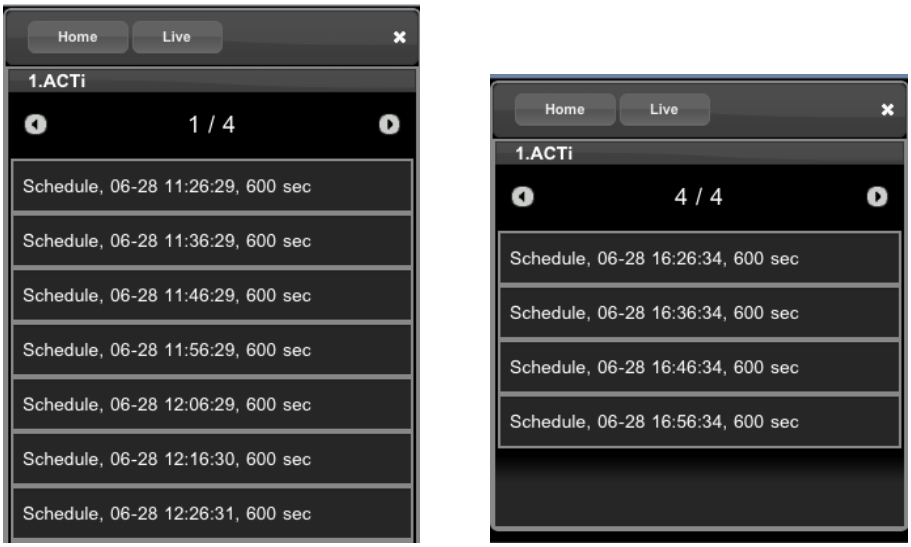

Fig. 18 Search results

Fig. 19 Playback

Please note that recording file length and pre-event recording length are defined in NVR Server configuration. Users are not allowed to change any NVR settings through the Mobile Server service.

Timestamp may have 3 seconds offset due to connection limitation.